

**REMARKS**

**Claim Status**

Claims 51-59 and 62-72 remain pending.

Claims 51, 52, 54, 55, 62, 63 and 65 are currently amended.

**Claim Rejections - 35 U.S.C. § 102**

In the Office Action mailed on March 23, 2006, claims 51, 59, 62 and 70-72 have been rejected as allegedly being unpatentable under 35 U.S.C. § 102(b) over U.S. Patent No. 5,920,319 to Vining *et al.* (“Vining”). Applicants respectfully traverse this rejection.

Claim 51 is generally directed to a method for performing computer aided diagnosis on a 3D, volumetric representation, of a region of interest. More particularly, Claim 51 has been amended to more clearly point out a method of computer aided diagnosis in which a context surface texture feature of a surface is determined and then a local surface texture feature is determined and compared to the context texture feature to identify a region which is indicative of an anomaly. Thus, the amendment further clarifies that two different texture features are determined; a context texture feature which represents the general texture of a region of a surface, and a local texture feature, which represents the texture of a small local area on the surface. A comparison is conducted between the local texture feature(s) and the context texture feature and those local texture features which exhibit a sufficient level of departure from that of the context texture feature are identified as potential abnormalities.

Independent Claim 62 is directed to a method of computer aided diagnosis in which both a local surface texture feature and a geometric (shape) feature are used to identify anomalies. Claim 62 has been amended to more particularly point out the use of both a context surface texture feature and a local surface texture feature in identifying suspicious regions. It is

respectfully submitted that Vining does not teach or suggest the claimed invention of independent Claims 51 or 62.

Applicant's submit that the Vining reference does not disclose, teach or suggest the use of textural surface features to identify an abnormality. As such, Vining clearly does not disclose the claimed methods which include the steps of determining a context surface texture feature and local surface texture features and comparing these texture features to identify suspicious regions. Instead of employing a texture feature analysis, Vining only discloses the use of shape features, such as convexity and wall thickness. Indeed, in the Office Action dated March 24, 2004 (Paper 13), it is stated that "Vining et al. is silent about 'textural feature of an abnormality'." Applicants believe that this initial characterization of the Vining reference by the Examiner was and remains correct. It is respectfully submitted that the curvature and convexity parameters disclosed in Vining are properly considered geometric (or shape) characteristics rather than surface texture features as presently claimed.

As the current application makes clear, surface texture feature analysis and geometric feature (shape) analysis are simply not the same thing. Indeed, different analysis techniques are invoked to analyze these two different properties. (See e.g., Specification, page 77, line 13, through page 79, line 11 for a discussion of texture analysis and compare with page 79, line 12 through page 80, line 16 for a discussion on geometrical or shape feature analysis.) This distinction is also clear by reference to independent Claim 62 which recites the use of both surface texture features and shape features in identifying anomalies.

In the Office Action, several citations to Vining are included which are intended to support the contention that Vining teaches the use of surface texture features to identify abnormalities. Applicants respectfully submit that these citations simply do not support this

conclusion. For example, Vining recites that surface rendering is performed using “texture memory.” Applicants do not contest that Vining discloses surface rendering. However, *rendering* is a different operation from *analysis* of the underlying features to determine whether an anomaly exists. Vining does not elaborate on the operation of the “texture memory” during surface rendering and Vining clearly does not disclose the use of textural features during an analysis operation to identify anomalies. Thus, Vining’s use of the term to “texture memory” does not disclose, teach or suggest texture feature analysis as described and claimed by the present application.

Second, the office action points to Vining’s disclosure regarding wall thickness to identify abnormalities and cites to col. 2, lines 31-54 of Vining. Applicants submit that wall thickness is not a measure of a textural feature of the surface and Vining’s disclosure regarding a wall thickness value is simply not relevant to this claimed feature. Applicants’ respectfully submit that Vining does not disclose, teach or suggest the claimed limitations of determining a context texture feature, determining local texture features or comparing local texture features to the context texture feature to identify regions of abnormality.

Independent claims 51 and 62 each recite the use of texture feature analysis which is neither disclosed, taught nor suggested by Vining. Therefore, applicants assert that independent claims 51 and 62, and all pending claims which depend therefrom, are patentably distinct over the Vining reference.

Claim Rejections - 35 U.S.C. § 103

In the Office Action, claims 52-58 and 63-69 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Vining in view of U.S. Patent No. 4,991,092 to Greensite (Greensite).

With respect to independent claims 51 and 62, it is respectfully submitted that the Greensite reference fails to overcome the fundamental shortcomings of the Vining reference set forth above. Therefore, the combination of Vining and Greensite does not render claims 51 or 62, or any claim which depends from these claims, unpatentable. Therefore, Claims 52-58 and 63-69 are patentable over the art of record by virtue of their depending on Claims 51 and 62, respectively.

**CONCLUSION**

In view of the amendments and remarks set forth above, entry of the present amendment and favorable consideration and allowance of claims 51-59, and 62-72 are respectfully solicited.

Respectfully submitted,



Paul D. Ackerman  
Patent Office Reg. No. 39,891

Dorsey & Whitney LLP  
New York, New York 10177-1500

Attorney for Applicants  
(212) 415-9372

Dated: July 19, 2006